STCG Subcon Subgroup Meeting Minutes

Revised Version
December 7, 1999

Introductions/Announcements (Arlene Tortoso)

Arlene opened the meeting. Mark Freshley noted that there would be an Advanced Characterization and Modeling EMSP Workshop on January 19-21, 2000.

Review Minutes from Last Meeting (Facilitator)

The facilitator reviewed the minutes from the October 19, 1999 meeting, and no changes were requested.

Sr-90 ITRD Project Status (Arlene Tortoso)

The Sr-90 ITRD workshop that was originally scheduled for December 15-16, 1999 has been postponed until January 10-11 in the Assembly Room of the Bechtel Building. There will be a Site tour on the morning of January 10. Mike Hightower has turned the ITRD Program over to someone else. There was a conference call last week to discuss the soil flushing proposal. There is funding for studies. Jerry White noted that MSC funding may also be available for Hanford, since there is a block of funds with no specific work scope tied to it. Ongoing treatability studies include the following:

- Soil flushing (the issue is how to handle the waste stream)
- Sr-90 stabilization
- Modeling effort of the river interface

Proposals on the table include:

- Lixiviants
- Additional column studies
- Additional modeling effort regarding contaminant flux to the river over a five-year period with a wall in place.

The ITRD Program needs to wind down the treatability studies, compare all the technologies, and come forth with recommendations to DOE and Ecology. Dib Goswami and John Fruchter just went to a phytoremediation conference and are supportive of that technology. The issues are: plants can lose their leaves, trees are dormant when the rains come and the river rises, and vegetation along the banks is too accessible.

Dib's favorite technologies for Sr-90 are the permeable barrier wall and soil flushing. There are about 100 permeable barrier walls in operation now. Sr-90 barriers are now operating in New York and Canada, but not next to the Columbia River. According to Doug Sherwood, the problem with barrier walls is how to dispose of the waste.

John Fruchter thinks monitored natural attenuation makes sense. Jerry White said that we need to find out how it's going at Savannah River and report back to the Subgroup. He volunteered to look at their data to see what's working. This topic will be put on the agenda for next month's meeting.

EMSP PI Orientation Meeting (Mark Freshley)

This three-day workshop took place the week of November 15, 1999. Topics included general Site and project introductions, a Site tour, breakout sessions on projects funded by the Groundwater/Vadose Zone (GW/VZ) Integration Project, and where the new EMSP projects fit into the GW/VZ S&T activities. Mark can provide guidance to the PIs and try to integrate their results into our S&T needs. John Zachara is providing uncontaminated Hanford cores to the PIs, and Glendon Gee is providing them access to his site.

Rich Holten was our representative to the SCFA User Steering Committee. Now it is Mike Thompson. An SCFA RFP is planned for February 15, 2000, and we should find out what the focus will be and start thinking about it now. Wayne Martin suggested that we should look at what we submitted last year. This will be on the agenda for our next Subgroup meeting.

Carbon Tet ITRD Project Modeling Work (Rick Cameron)

Rick Cameron provided an overview of the Hanford Carbon Tetrachloride ITRD Project. He stated that it is premature to select a specific technology until further characterization is done. Tracer partitioning tests will confirm the amount of non-aqueous-phase liquid (NAPL) present in the site under Z-9. DOE and EPA are developing a strategy for groundwater, vadose zone, or both. They will give the strategy to Duke Engineering to prepare a cost estimate and proposal for doing this testing. Dib Goswami requested a copy of this strategy paper, and Arlene Tortoso took the action to provide it.

They are looking at a high-powered laser to melt through the subsurface and seal the well. It goes through rock at a rate of three inches per second. This technology could save Hanford lots of money on drilling costs.

NAPL is the non-dissolved phase of the carbon tet. The caliche layer is the most likely spot for holding NAPL. They could use six-phase heating with soil vapor extraction to remove it.

The groundwater modeling work is aimed at solving a specific problem. It will provide the input parameters for other processes such as biological degradation, geochemical transformation, sorption to soils, volatilization into the vadose zone, and dispersion.

Vadose zone modeling is not funded. They are looking at processes in the vadose zone to see how the carbon tet has been distributed and where characterization should be done. Modeling can help define the answers to these questions.

Instituting a Monthly Discussion on Needs (Scott Petersen)

There are currently 22 remediation needs and 15 groundwater/vadose zone needs on the Subcon S&T needs list. Each month, Scott will select two or three of the highest-priority needs and review the status of all related technology activities. In addition, he distributed a strawman BHI Technology Applications monthly summary of technology activities. The Subgroup will receive a similar summary each month containing information on industry contacts, technology demonstrations, technology evaluations, and any miscellaneous technology activities.

It was suggested that the technology need status reports have a section on current disposition or next steps after the status. For example, if a report was produced and provided to the project, are they acting on it? Do we need to prepare a TTP for EM-50? Do we have enough information? How high a priority is this need? Where do we go from here? These types of questions should be addressed. We should also have a section on what SCFA is doing with the need. If it turns out that the technology is commercially available, we may want to push the need back to the project (e.g., state that this is an improvement to the baseline that uses off-the-shelf technology). This information would be very useful when we get into next year's S&T needs process.

ER Monthly Status Report on Technologies (Scott Petersen/Mike Truex)

Scott Petersen selected the following two needs and Mike Truex provided an overview of the related technology activities: Improved, Ex Situ Treatment of Chromium in Groundwater (RL-SS23) and Improved, Cost-Effective Methods for Subsurface Access to Support Characterization and Remediation (RL-SS25).

RL-SS23 is for ex situ treatment methods for chromium-contaminated groundwater that are more cost-effective than ion exchange. In the 100-H Area, BHI is finding that the resin is contaminated with technetium-99. They are unable to regenerate it for chromium use with the technetium on it. They reviewed ion exchange resins to be used as a pretreatment. For the longer term, they might want to look at alternatives to ion exchange. A report was written comparing various ex situ treatments with pump-and-treat technology (but not with in situ redox manipulation). The report describes the pros and cons of each technology that was evaluated, but there are no detailed cost comparisons. It was suggested that we might be able to get some funding from the Waste Minimization Program for technology evaluations if the technology would result in waste minimization. The main cost for in situ redox is the wells, which are currently spaced on a 35-foot radius. It is not clear whether than can be spaced farther apart.

RL-SS25 is a high-priority need. Ecology was against drilling a slant hole in the tank farms, and it was against the Expert Panel's recommendations. The use of wet drilling mud can drive the contaminants farther down. Wayne Martin took an action to find out more about laser drilling, which has the potential to save a lot of money at Hanford. However, it may be that laser-drilled wells only have a two-inch diameter. Wayne will try to set up a presentation for the January

Subgroup meeting, or perhaps a conference call or a videoconference.

Subcon Subgroup FY99 Annual Report to the Management Council

The Subgroup reviewed the preliminary draft of the FY99 Annual Report to the Management Council and provided numerous comments to clarify the report and include additional detail. The facilitator recorded the comments and agreed to revise the draft and distribute it to the Subgroup members. It will be endorsed at the January 12 Subgroup meeting and provided to the Management Council at their January meeting.

SCFA Technical Assistance Activities (Wayne Martin)

Wayne provided a summary of the three SCFA Technical Assistance activities that have occurred so far:

1. In response to the Energy and Water Subcommittee, the SCFA Technical Assistance team responded within four days to the needs at Paducah. A report was generated and a presentation was given to Carolyn Huntoon.
2. Funding was made available to develop a strategy on the path forward for long-term covers. The work package funding is higher in FY01.
3. A meeting on phytoremediation just occurred. Wayne Martin and John Fruchter attended. Discussions covered what we know about phytoremediation, where it applies to DOE sites, and what the technical challenges are. Wayne will try to get an overview on the agenda for the next Subgroup meeting.

Action Items

1. Find out how natural attenuation is working at Savannah River and report back to the Subgroup. Put on the agenda for the January Subgroup meeting. (Jerry White)
2. Look at the proposals we submitted last year and get ready for the February 15, 2000 SCFA RFP. Put on the agenda for the January Subgroup meeting. (Wayne Martin)
3. Find out more about laser drilling and put it on the agenda for the January Subgroup meeting. (Wayne Martin)
4. Revise the FY99 Subgroup Annual Report to the Management Council and distribute the revised draft to the Subgroup members. (Facilitator)
5. Provide an overview of phytoremediation at the January Subgroup meeting. (Wayne Martin)
6. Provide a copy of the DOE/EPA DNAPL characterization strategy paper for Dib Goswami. (Arlene Tortoso)
7. Add Judit German-Heins and Dan Tano to the Subgroup distribution list. (Facilitator)
8. Ask Jim Hanson to provide a report on the weekly conference calls with SCFA at each Subgroup meeting. (Facilitator)
9. Ask Dennis Brown to present the plans for the FY 2001 S&T needs process at the January

Subgroup meeting. (Facilitator)

Attendees

Craig Cameron (EPA)
Rick Cameron (PNNL)
Linda Fassbender (PNNL)
Dennis Faulk (EPA)
Mark Freshley (PNNL)
John Fruchter (PNNL)
Judit German-Heins (Nez Perce Tribe)
Dib Goswami (Ecology)
Wayne Martin (PNNL)
Scott Petersen (BHI/TA)
Gordon Rogers (HAB)
Dan Tano (DOE-RL)
Arlene Tortoso (DOE-RL)
Mike Truex (PNNL)
Jerry White (BHI)

Wrap-Up (Arlene Tortoso)

The next Subcon Subgroup meeting will be held at 8:30 a.m. on January 12 in Room 2A-01 of the Bechtel Building.